THE CITY OF OMITLAN.

A YEAR or so ago the newspapers mentioned the discovery of a ruined city in western Mexico by Mr. William Nivens. Since then collections have been brought to New York City, and ample means thus furnished to judge of its characteristics. In the *Bulletin* of the American Geographical Society for July of this year, Mr. Nivens has a short article on the subject. The ruins are very extensive and indicate a skill in stone work above that of many tribes, but decidedly inferior to that of the best Aztec civilzation. His article speaks of a tablet with hieroglyphic characters, but examples of such are extremely rare, and perhaps of doubtful origin. The stones are, as a rule, not dressed with skill and the structures were not lofty. From all this we may conclude that we have in these extensive remains the relics of an inferior, subordinate culture-center of Aztec civilization; but this, of course, does not in any way diminish the interest which attaches to Mr. Nivens' explorations.

THE CAVE OF LOLTUN.

LOLTUN is the name of a remarkable cavern in Yucatan. The Peabody Museum of Archæology has just published a report of its exploration by Mr. Edward H. Thompson, in 1890–91. It is unfortunate for Mr. Thompson that the Museum waited six years to print his interesting account, as in the meanwhile another expedition, led by Mr. H. C. Mercer, of the University of Pennsylvania, carefully explored and promptly printed a full description of it in 1896. Boards of publication should be aware that the world gives credit not to him who first investigates, but to him whose investigations are first placed for use before students.

The report is well printed with attractive illustrations. The excavations were carefully made and confirm the opinion advanced by the later expedition that those who entered or dwelt in the cave belonged to the same race and people, and possessed the same culture, as those who built the great stone structures on the surface near them. Neither here nor elsewhere in the Yucatan caves did Mr. Thompson discover any signs of a distinctively 'cave people,' or of an earlier, ruder civilzation.

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NOTES ON INORGANIC CHEMISTRY.

To Berthelot's researches we owe very much of our knowledge of the chemistry and technology of the ancients. In the last *Comptes Rendus* he recounts his examination of glass mirrors found near Reims, dating from the third and fourth centuries. The glass was coated with a metal and also a whitish layer. The metal proved to be lead, with no trace of gold, silver, copper, tin, antimony or mercury, nor was there any organic substance present, showing that no extraneous material was used to cement the lead to the glass. The mirrors appeared to have been cut from hollow blown glass globes, and it is probable that, before being cut, the molten lead had been poured into the interior, adhering to the previously warmed glass. The whitish layer consisted of lead carbonate and lead oxid formed by the oxidation of the lead coating, and calcium carbonate, which had been deposited from the water of the vicinity. A similar method of coating glass with lead was known in the thirteenth century. In the same find were fragments of glass showing the lustre of gold and of silver; these metals were not present, but the color was due partly to the lamellation of the glass and partly to a very thin layer of calcium carbonate which had been deposited on them.

IN the *Chemiker Zeitung* Léon Franck describes experiments with the every-day use of spoons, forks and vessels of aluminum.

The metal was 99 per cent. pure, containing varying quantities of iron and silicon. A boiler of 732 sq. cm. surface lost in three years' daily use 0.1046 gram, a daily loss of 0.09 milligrams. Another boiler of the same size in which milk was boiled twice a day for fifteen minutes lost in three years 0.5138 gram. An impervious coating seemed to be formed on the metal which protected it from further action. This was shown by experiments with sheet aluminum, which was boiled daily three hours with water, and which suffered greater loss near the beginning of the experiment than at its close. Forks and spoons lost very little by constant use at meals, and the same was true when used for salads, and also when used in cooking. After three years' constant use coffee spoons showed a loss of from 0.032 to 0.036 grams and tea spoons from 0.0206 to 0.0244 grams. These experiments would tend to show that for ordinary table purposes aluminum is a safe metal to use, and that it is also safe for vessels for boiling water. A similar series of experiments where salted foods and vegetables were cooked in aluminum vessels would be interesting and valuable.

IN the *Zeitung für Beleuchtungswesen* Paul Wolff discusses the question of acetylene generators. Most generators depend upon the removal of the water from the calcium carbid by the pressure of the gas to stop the action of the generator. The author shows that this is not sufficient. There are three causes for the action of the water on the carbid not ceasing. 1. The gas in the carbid chamber is saturated with water vapor, and the water is continually evaporating into this chamber. 2. A part of the water is taken up by the warmed lime and given off on cooling. 3. The carbid above the water is continually absorbing water. These difficulties may be obviated to some extent by providing that the water chamber be separated as completely as possible from the carbid chamber, as in a Kipp apparatus, but even then the action will go on until all the water present, as vapor in chamber and absorbed by the lime, has been exhausted. It is thus imperative to provide a gas reservoir large enough to contain all the gas which may, under these circumstances, be evolved after the gas has been turned off. The author in the article discusses the necessary size of this reservoir for different generators.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

THE will of the late Dr. George H. Horn gives his valuable entomological collections, together with his entomological books and instruments and an endowment of $200 per annum, to the American Entomological Society. From the residuary estate, after the death of his sister, the Entomological Society is to receive $5,000, the Philadelphia Academy of Natural Sciences $1,000 and the American Philosophical Society $500.

LATE advices from the Pribilof Islands state that many yearling fur seals branded as pups in 1896 made their appearance on the hauling grounds in September and October; also that over 5,000 pups and 180 adult females were branded this year. Apart from the practical bearing of this work it will furnish definite evidence of the movements of the seals and show to what extent the females resort to the rookeries on which they were born or on which they first appeared as two-year-olds.

MR. CHARLES WALLACE HUNT, New York, has been elected President of the American Society of Mechanical Engineers.

PROFESSOR JACOB REIGHARD, of the zoological department of the University of Michigan, has been appointed by Governor Pingree a State delegate to the National Fishery Congress to be held at Tampa, Fla., January 19, 1898.

FURTHER jubilee medals have been conferred upon Dr. Günther, President of the Linnean Society; on Professor Dewar, President of the Chemical Society, and on Professor R. Meldola, late President of the Entomological Society.